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ABSTRACT

This lesson plan, a simulation which can be a semester-long activity, illustrates numerous economic concepts to students of all abilities. The lesson's system has been used successfully for the past five years in English as a Second Language, regular, and Advanced Placement classes. The "system" has proven to be enjoyable, motivating, effective, and a great way to objectively assess a student's class participation. The lesson revolves around the idea of the student as an independent contractor "employed" by the teacher, with all that such an idea involves in the classroom. The simulation's purpose is to provide an interactive vehicle for experiencing, illustrating, and learning economic principles and concepts. The lesson provides an overview, gives a purpose, cites objectives, lists materials needed, and outlines step-by-step procedures. (Contains a resource page to show how money simulation addresses economic principles.) (BT)

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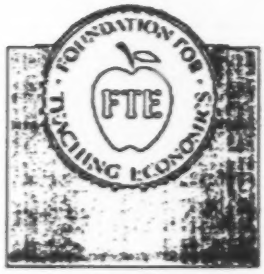
Foundation for Teaching Economics

Money Simulation (Mini Economy)
Lesson Plan

By Roland Lewin



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Money Simulation (mini economy)

By Roland Lewin,
Dos Pueblos High School Goleta, California

Overview:
This simulation, simple to operate and manage, can be a semester long activity which will provide a medium to illustrate numerous economic concepts to students of all abilities. I have successfully used this system for the past five years in "sheltered" (English as Second Language) , "regular" and in Advanced Placement classes. This "system" has proven to be enjoyable, motivating, effective and a great way to objectively assess a student's class participation.

Basically, students are independent contractors that are "employed" by you, the teacher. They earn a weekly salary, rent desks, and later have the opportunity to purchase their desks (real estate) and invest in the stock market. It is basically a "mixed" market system, wherein individuals, partnerships and corporations are free to engage in legal transactions. The role of the government (you, the teacher) is to monitor (see objective #3) the economy and control the money supply.

Purpose:
The purpose of this simulation is to provide an interactive vehicle for experiencing, illustrating and learning economic principles and concepts. (see Resource Page for evidence as to how this simulation teaches eight out of "The Nine Principles") Additionally, its purpose is to motivate students to learn and have fun at the same time.

Objectives:

1. Students will participate in a local, classroom economy in both the resource and products market.
2. Students will track all transactions that they are party to in a "Cash Accounting Sheet" (see resource page) such that their cash in hand will (should) ALWAYS match the balance shown on "Cash Accounting Sheet".
3. Students will experience government involvement and intervention in the market place, as the government (teacher) may levy taxes, provide public goods, regulate and/or correct for "market failure".
4. Students will be motivated to come to class, participate and learn by striving to accumulate as much cash as possible.
5. Students and teacher will have fun!

Materials:
Money! I have found it convenient to have denominations of 50, 100, 500, 1000, 5000 and 10000. Samples are provided as resource pages. You may want to duplicate some to get started or create your own, and then have your students create more (for a fee of course).

Procedures:
The beauty of this "system" is that there is no one way to operate it. The following are merely mainstays that I have found to be viable.

1. Give each student a "Cash Accounting Sheet". Instruct them that every time that they receive money or pay money, they must make an entry.
2. Give them a $100 "on-time" bonus so that they can make an entry the first day. (There are potential spillover benefits to the school as tardies are reduced!) Their entry will look like this:

Date	Description of Transaction	Payment / Debit (-)	Deposit / Credit(+)	Balance($)
9/18/99	On-time bonus		100	100

3. Find other opportunities to give bonuses the first few days. (i.e. for good responses to your questions, to the whole class if everyone fills out the seating chart properly, for doing their homework, etc.)
4. **Salaries:** Inform students that you are hiring them to work for you. Negotiate a starting wage. I'm sure they'll be happy to receive $1,000 a day to start (later when it is time to create inflation, I give them a raise, because "they are such great students/workers"). Their job is to be the best economics student that they can be. Their pay is compensation for classwork and homework. Payday is Friday. Their entry may look like this if they were present all five days:

Date	Description of Transaction	Payment / Debit (-)	Deposit / Credit(+)	Balance($)
9/22	Salary		5,000	5,000

5. **Rent:** The first week is rent-free. I suggest they check out the neighborhoods (and potential neighbors first). On the first Monday of the semester students select a desk to rent on a first-come, first serve basis. Their claim to the seat entitles them to hold it for one week. Each Monday, they may select a new seat, again on first-come basis. Rents are as follows: (I have 36 seats: 6 rows with 6 seats)

Row 1: $500/week
Row 2: $750/week
Row 3: $1,000/week
Row 4: $1,500/week
Row 5: $2,000/week
Row 6: $2,500/week

Wearing my "government" hat, I explain to students that an incentive (lower rent) is offered to have them sit closer to the front, because I see that as being in their best interests based on "studies" that show that the closer a student sits to the front of the class, the higher grade they achieve. Each Monday there is a rush of students clamoring to get these "subsidized" seats!

Suggestion: If you have more seats than students, designate some as "open space" (government owner/control of resources) as there will always be the few students who want to sit in the back. This will also eliminate any surplus when you go to sell the seats putting upward pressure on price and providing an opportunity for entrepreneurs to buy extra seats and go into the property rental business.

6. **Selling seats:** I usually wait until the class is studying how prices are determined before selling seats. By this time they have varying amounts of money that will add interest to this endeavor. I "post" offer prices on all the seats that I am willing to sell (I only sell enough seats to accommodate the number of students, the rest are, again, designated as "open space".), and price seats in the same fashion as rental rates--lower prices toward the front. Students must make offers in writing: (see resource page: "OFFER TO PURCHASE") For fun and to portray reality, I will usually counter every offer, especially if they try to "lowball" the asking price. (Note: seats are easily described as "first seat in the third row from the door", etc.)

   Once an agreement has been reached and "consideration" paid, "record" the purchase on a poster-size master seating chart that the whole class can see (don't list purchase prices). Then issue the buyer a "GRANT DEED" (see resource page). This is now their seat for the rest of the semester, unless they choose to sell it or rent another.

   I sell every mortgage (note) at a discount so that I do not have to "service" the loan. (i.e. If I have accepted an offer wherein a student has agreed to pay $3,000/week for 6 weeks, this might require some administration time on my part to collect loan. Therefore, I sell-auction- the loan off for the highest price possible. Let's say this loan sells for $14,000 cash. They will earn $4,000 basically to service the loan and assume the risk of default. The holder of this mortgage will now make sure that the borrower pays each week!) Students who do not invest in real estate often are buyers of these notes.

7. **Taxes:** December 1 and April 10 are good property tax (1% of purchase amount--hire a tax collector!) dates in California. Of course, April 15 is a good income tax day for all. This is a good time to bring out the IRS Form1040-EZ and help students who have worked part-time in the real world claim their withholding. (many do not because they are unaware that they could have money coming back)
8. **Simulation administration:** There is not much if you "hire" students to work for you. You can hire students to pay salaries (banker), collect rent or collect fines--or have a student aide do it. I even hire a student to write down the assignments on the blackboard. This system can save you time! Remember every transaction must be documented in the Cash Accounting Sheet, so they will not be able to cheat without creatively "laundering" dirty money. I have not yet had a case of cheating.

   Try to sell all seats to avoid rent collections.

   The only "hectic" time may be when desks are initially put up for sale. It's also a lot of fun, though.

9. **Anecdotes:** The possibilities are endless with where this simulation can lead. Much depends on the creativity of the teacher and students.
   - One year a student managed to buy almost all the seats. Of course rents skyrocketed and renters protested. I, the government, had to threaten to impose rent control if this landlord couldn't resolve the problem. He did.
   - Recently students formed a corporation, "Tubesteak, Inc." They donated money back to the government to build a park in their "neighborhood" and they donated money to the government to build a prison for students who disturbed the class. Park fees of $1,000 (after salaries had gone up to $10,000/week) went to the government, imposed to prevent homeless loitering- -they owned rental property--and Tubesteak was to receive 25% of prison fines imposed.

CAVEAT: The one (and only) disadvantage of this simulation is that students can and will rent and/or buy seats next to their friends. Excess talking may result.

Solutions: Use this as opportunity to illustrate how the government can cure this market failure--spillover costs. I call it "noise pollution" and seek suggestions from class on internalizing these social costs: (the regulation of "no talking" doesn't work), fines are usually the best bet here. I have not had to permanently remove a student from his/her domicile, yet, though some have temporarily gone to "prison".

10. **Other ideas:**
    - double their salaries when you want to create inflation, then a week later, inform renters you have to increase rents because your costs went up.
    - bonuses for superior work, (exams, valuable contributions to class discussions, answering question in class, etc.)
    - fines for being tardy
    - fines for no homework
    - rent fans from students during hot spells
    - welfare for students out for hospitalization
    - fines for inferior work? (this is my idle threat. I figure a low grade is punishment enough.
    - incorporate STOCK PROJECT into this simulation.
11. **End of the semester:** Buy back the seats at an appreciation rate equivalent to what the local real estate market has enjoyed (endured).
    Have students reconcile actual cash in hand with balance in Cash Accounting Sheet.
    Have them write a paragraph to explain any discrepancies.
    Give a PRIZE for most money accumulated.

CASH ACCOUNTING SHEET

Date	Description of Transaction	Payment / Debit (-)	Deposit / Credit (+)	Balance ($)

Resource Page: Money Simulation, by Roland Lewin

OFFER TO PURCHASE

Date: _____

"I, _____, offer the sum of $_____ as purchase price of the property situated in Room M-2, Dos Pueblos High School, County of Santa Barbara, described as:

Financing:

Down Payment: _____

Balance will be paid in (#)_____ installments of $_____ each.

This offer is valid until _____.

Signed: _____

Counteroffer:

This document shall serve as a "Note" (mortgage) if any of the purchase price is to be paid in installments. The note is assignable to other parties.

Resource Page: Money Simulation, by Roland Lewin

GRANT DEED

_____(Grantor), grants and conveys to

_____(Grantee) all rights to the following property

described as:

Signed: _____ Date: _____

Grantor

GRANT DEED

_____(Grantor), grants and conveys to

_____(Grantee) all rights to the following property

described as:

Signed: _____ Date: _____

Grantor

Resource Page: Money Simulation, by Roland Lewin

(Resource page to show how money simulation addresses 8 out of 9 principles)

The Nine Principles

(* acquired at FTE program, S'1998)

Economic Reasoning

1. *People choose. Scarcity is the basic economic problem and choice is its consequence.* Students will be faced with many choices: buy desks or rent desks or both; which desks, buy stocks? etc.

2. *All choices involve benefits and costs. When people choose, they accept one alternative and give up another. Deciding to make no choice is a choice and has consequences.* There will be consequences to students' decisions ,measured in class currency.

3. *Informed choices involve benefit/cost analysis; choices affect the decision-maker and others.* Students will be faced with many choices, and they will want to make their "best" decision. They will be motivated to do a benefit/cost analysis. Students can and do perform a benefit/cost analysis when determining if and how much to offer to buy a seat. They base it on how many weeks are left to factor in rent savings to themselves or potential rental earnings if they are purchasing it as rental property. They are making an informed choice and their choice does affect them and others.

4. *People respond to incentives.* Students definitely will respond to being paid to come to class, not to mention having the opportunity to make money in other ways or even to win a prize at the end of the simulation.

5. *Voluntary exchange, both domestic and international, is a win-win situation for the traders.* This simulation gives students the opportunity to conduct exchanges, transactions – all on a voluntary basis. We know as rational individuals, that they would not enter into an exchange unless they anticipated a gain.

The Rules of the Game

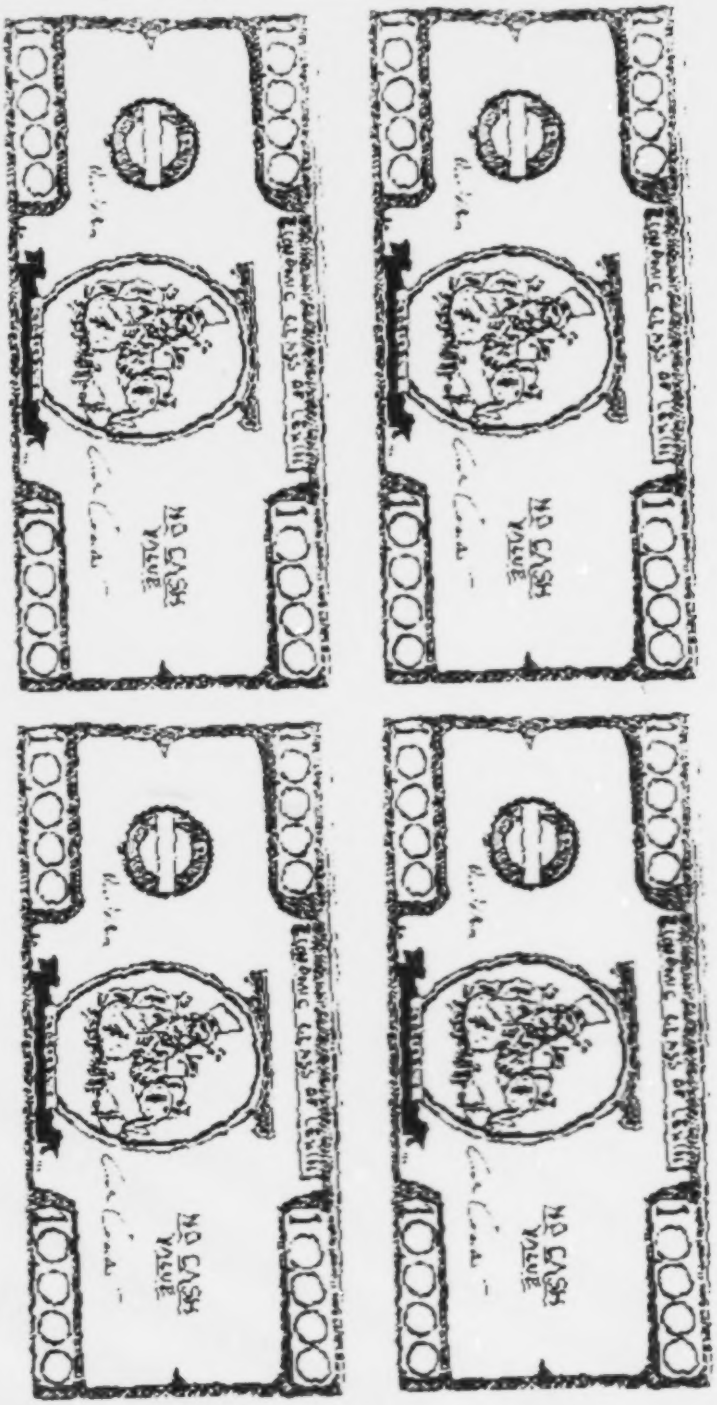
6. *In a market economy, prices identify how scarce one good or service is compared to other goods and services. Prices determine who gets what goods and services. Prices are determined by supply and demand. In a market economy, profit is the incentive for entrepreneurs, competition is the regulator.* To a large degree, except when the "government" has ulterior motives (i.e. rents/prices for front seats lower, etc.), prices are determined through interactions of buyers and sellers. This may be only rivalry where you want to be outnumbered!

7. *In a competitive labor market, income depends on the skills of the worker (productivity) and the demand for those skills.* Even though the classroom labor market is more closely characterized by monopsony, students do get bonuses for superior (more productive) work.

8. *An economy's performance is measured by changes in such economic indicators as Real Gross Domestic Product, employment and unemployment, and the price level.* Okay, I concede this one, but how about these indicators: "Real" Grade Point Averages, attendance and tardy rates, and the motivational level?

9. *Government influences the economy in both a macro and a micro sense.* The government (teacher) controls the money supply (monetary policy); and has the power to tax, subsidize and/or spend (fiscal policy).

Resource Page: Money Simulation, by Roland Lewin



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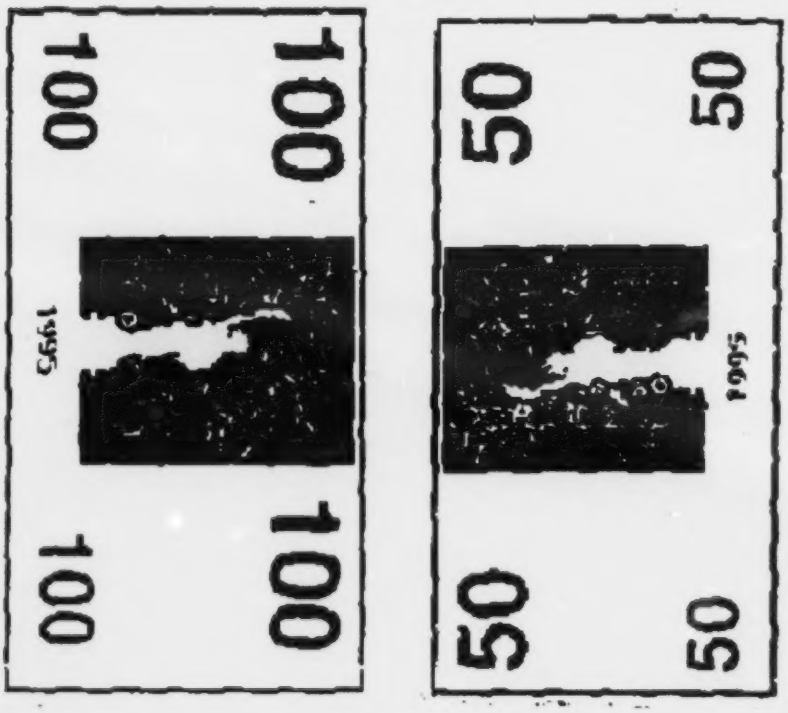

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